

**WHAT IS CLAIMED IS:**

1        1. A MPEG decoder having a controller that detects start  
2        codes in bitstreams received in said MPEG decoder, each of said  
3        start codes having a three-byte start code prefix and a one-byte  
4        start code value, said controller operable to (i) fetch a thirty-  
5        two bit word of a received bitstream, (ii) determine whether a  
6        start code prefix and a start code value are properly aligned  
7        within said thirty-two bit word, and (iii) if not properly aligned  
8        within said thirty-two bit word, determine whether the least  
9        significant byte of said thirty-two bit word may be part of said  
10      start code prefix.

1        2. The MPEG decoder as set forth in Claim 1 wherein said  
2        controller is further operable, if not part of said start code  
3        prefix, to fetch another thirty-two bit word of said received  
4        bitstream.

1        3. The MPEG decoder as set forth in Claim 2 wherein said  
2        controller is further operable to (iv) determine whether said start  
3        code prefix is within the three least significant bytes of said  
4        thirty-two bit word.

1           4. The MPEG decoder as set forth in Claim 2 wherein said  
2 controller is further operable to (iv) determine whether part of  
3 said start code prefix may be within the most significant byte of  
4 a next thirty-two bit word.

1           5. The MPEG decoder as set forth in Claim 4 wherein said  
2 controller is further operable to fetch said next thirty-two bit  
3 word of said received bitstream.

1           6. The MPEG decoder as set forth in Claim 4 wherein said  
2 controller is further operable to (v) determine whether part of  
3 said start code prefix is within the two least significant bytes of  
4 said thirty-two bit word and the most significant byte of said next  
5 thirty-two bit word.

1           7. The MPEG decoder as set forth in Claim 4 wherein said  
2 controller is further operable to (v) determine whether part of  
3 said start code prefix is within the least significant byte of said  
4 thirty-two bit word and the two most significant bytes of said next  
5 thirty-two bit word.

1        8. A digital video recorder capable of playing back a  
2 recorded program stream, said digital video recorder comprising:

3                a video processor capable of receiving an incoming  
4 program stream and converting said incoming program stream to a  
5 baseband signal capable of being displayed on a television  
6 associated with said digital video recorder;

7                a storage disk capable of storing program streams for  
8 time-shifted viewing; and

9                a MPEG decoder capable of decoding received bitstreams  
10 and generating PES packets, said MPEG decoder having a controller  
11 that detects start codes in said received bitstreams, each of said  
12 start codes having a three-byte start code prefix and a one-byte  
13 start code value, said controller operable to (i) fetch a thirty-  
14 two bit word of a received bitstream, (ii) determine whether a  
15 start code prefix and a start code value are properly aligned  
16 within said thirty-two bit word, and (iii) if not properly aligned  
17 within said thirty-two bit word, determine whether the least  
18 significant byte of said thirty-two bit word may be part of said  
19 start code prefix.

1           9. The digital video recorder as set forth in Claim 8  
2 wherein said controller is further operable, if not part of said  
3 start code prefix, to fetch another thirty-two bit word of said  
4 recorded bitstream.

1           10. The digital video recorder as set forth in Claim 9  
2 wherein said controller is further operable to (iv) determine  
3 whether said start code prefix is within the three least  
4 significant bytes of said thirty-two bit word.

1           11. The digital video recorder as set forth in Claim 9  
2 wherein said controller is further operable to (iv) determine  
3 whether part of said start code prefix may be within the most  
4 significant byte of a next thirty-two bit word.

1           12. The digital video recorder as set forth in Claim 11  
2 wherein said controller is further operable to fetch said next  
3 thirty-two bit word of said received bitstream.

1           13. The digital video recorder as set forth in Claim 11  
2       wherein said controller is further operable to (v) determine  
3       whether part of said start code prefix is within the two least  
4       significant bytes of said thirty-two bit word and the most  
5       significant byte of said next thirty-two bit word.

1           14. The digital video recorder as set forth in Claim 11  
2       wherein said controller is further operable to (v) determine  
3       whether part of said start code prefix is within the least  
4       significant byte of said thirty-two bit word and the two most  
5       significant bytes of said next thirty-two bit word.

1           15. A method of detecting start codes in bitstreams received  
2       in a MPEG decoder, each of said start codes having a three-byte  
3       start code prefix and a one-byte start code value, said method  
4       comprising the steps of:

5                 (i) fetching a thirty-two bit word of a received  
6       bitstream;

7                 (ii) determining whether a start code prefix and a start  
8       code value are properly aligned within said thirty-two bit word;  
9       and

10                (iii) if not properly aligned within said thirty-two bit  
11       word, determining whether the least significant byte of said  
12       thirty-two bit word may be part of said start code prefix.

1           16. The method as set forth in Claim 15 further comprising  
2       the step of (iv) determining whether said start code prefix is  
3       within the three least significant bytes of said thirty-two bit  
4       word.

1           17. The method as set forth in Claim 15 further comprising  
2       the step of (iv) determining whether part of said start code prefix  
3       may be within the most significant byte of a next thirty-two bit  
4       word.

1           18. The method as set forth in Claim 17 further comprising  
2       the step of fetching said next thirty-two bit word of said received  
3       bitstream.

1           19. The method as set forth in Claim 15 further comprising  
2       the step of (v) determining whether part of said start code prefix  
3       is within the two least significant bytes of said thirty-two bit  
4       word and the most significant byte of a next thirty-two bit word.

1           20. The method as set forth in Claim 15 further comprising  
2       the step of (v) determining whether part of said start code prefix  
3       is within the least significant byte of said thirty-two bit word  
4       and the two most significant bytes of a next thirty-two bit word.